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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|-------------------------------|------------------|
| 10/519,914 | 01/03/2005 | Koichi Sato | 03500.017360 | 3004 |
| 5514 7590 01/11/2008 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112 | | | EXAMINER CHEUNG, WILLIAM K | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1796 | |
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| | | | 01/11/2008 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/519,914 | Applicant(s) SATO ET AL. | |
| | Examiner William K. Cheung | Art Unit 1796 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Request for Continued Examination

1. The request filed on December 10, 2007 for a Request for Continued Examination (RCE) under 37 CFR 1.53(d) based on parent Application No. 10/519,914 is acceptable and a RCE has been established. An action on the RCE follows.
2. In view of the amendment filed November 19, 2007, claims 1- 10 have been cancelled, and new claims 20-24 have been added. Claims 11-24 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. Claims 11-24 are rejected under 35 U.S.C. 103(a) as obvious over Sano et al. (US 2003/0144377 A1).

Sano et al. (page 13, claim 7) disclose a ABC type triblock copolymer comprising block A that is hydrophobic, Block B that is hydrophobic with other monomers added, and Block C that can be freely chosen. Since Block C can be freely chosen, Block C can also be chosen to be the hydrophilic since Block A is already hydrophobic. Regarding hydrophilic monomers, Sano et al. (page 4, 0078) disclose a block unit comprising ethylenic monomer containing ionizable groups including carboxylic acid functionalities.

The difference between the invention of claims 11-24 and Sano et al. is that the hydrophilic monomers of Sano et al. are silent on the ether spacer group between the polymer maintain chain and the carboxylic acid group of formula (1) of claim 11.

Since Sano et al. (page 4, 0078) disclose a block unit comprising ethylenic monomer containing ionizable groups including carboxylic acid functionalities, Sano et al. teach a family of compounds that generically include the compound as claimed (formula (1) of claim 1). Motivated by the expectation of success of obtaining the ABC triblock copolymers of Sano et al., it would have been obvious to one of ordinary skill in art to recognize and appreciate any ethylenic monomer containing ionizable groups including carboxylic acid functionalities, such as the formula (1) of claim 1 to obtain the invention of claims 11-24.

Response to Arguments

5. Applicant's arguments filed November 19, 2007 have been fully considered but they are not persuasive. Applicants argue that Sano et al. do not teach a ABC triblock copolymer comprising block B that is non-stimulus responsive. However, applicants fail to recognize that Sano et al. (page 1, 0023; page 2, 0038; page 3, 0073; page 13, claim 7 (4); page 14, claim 15 (4)) clearly disclose amino block units that would be responsive to a change in pH.

Regarding applicants' argument that the claimed "ABC block copolymer" have specific morphology or functions", applicants fail to recognize that the argued morphology and functions are not supported by the claims. Further, applicants has no basis or evidence that the ABC block copolymers of Sano et al. would not inherently possessed the argued morphology and functions.

Regarding applicants' argument that claim 7 of Sano et al. where both A and B blocks are both hydrophobic is not supported by the specification of Sano et al., applicants fail to recognize that the claims of Sano et al. are also part of the specification of Sano et al. Further, applicants must recognize that block C of Sano et al. "can be freely chosen" to be hydrophilic, hydrophobic, or any hydrophilicity in between. Since the assignment of A, B or C designation is arbitrarily assigned, the block A of Sano et al. can be view as block C, or vice versa. Therefore, applicants have no basis to state that claim 7 of Sano et al. is an error.

Further, for the reasons set forth above, applicants have no basis to argue that Sano et al. do not teach ABC-type triblock polymers.

Regarding applicants' argument that the block B of Sano et al. is always hydrophobic, the examiner disagrees because Sano et al. (page 1, 0023; page 2, 0038; page 3, 0073; page 13, claim 7 (4); page 14, claim 15 (4)) clearly disclose amino block units that would change in polymer-polymer or polymer-aqueous solvent interaction (such as a change water solubility) in response to a change in pH.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K. Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



William K. Cheung, Ph.D.

Primary Examiner

January 3, 2008

WILLIAM K. CHEUNG
PRIMARY EXAMINER